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Volume XVII JULY 1956 Number 7

DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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277 Broadway, New York 7, New York

EDITORIAL OFFICES
UNIVERSITY OF TEXAS SCHOOL OF MEDICINE
800 Avenue B., Galveston, Texas

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1. Hollister, L. E., Krieger, G. E., Kringel, A., and Roberts, R. H.: Ann. New York Acad. Sc. *61*:92 (April 15) 1955. 2. Hoffman, J. L., and Konchegul, L.: Ann. New York Acad. Sc. *61*:144 (April 15) 1955. 3. Kline, N. S., and Stanley, A. M.: Ann. New York Acad. Sc. *61*:85 (April 15) 1955.

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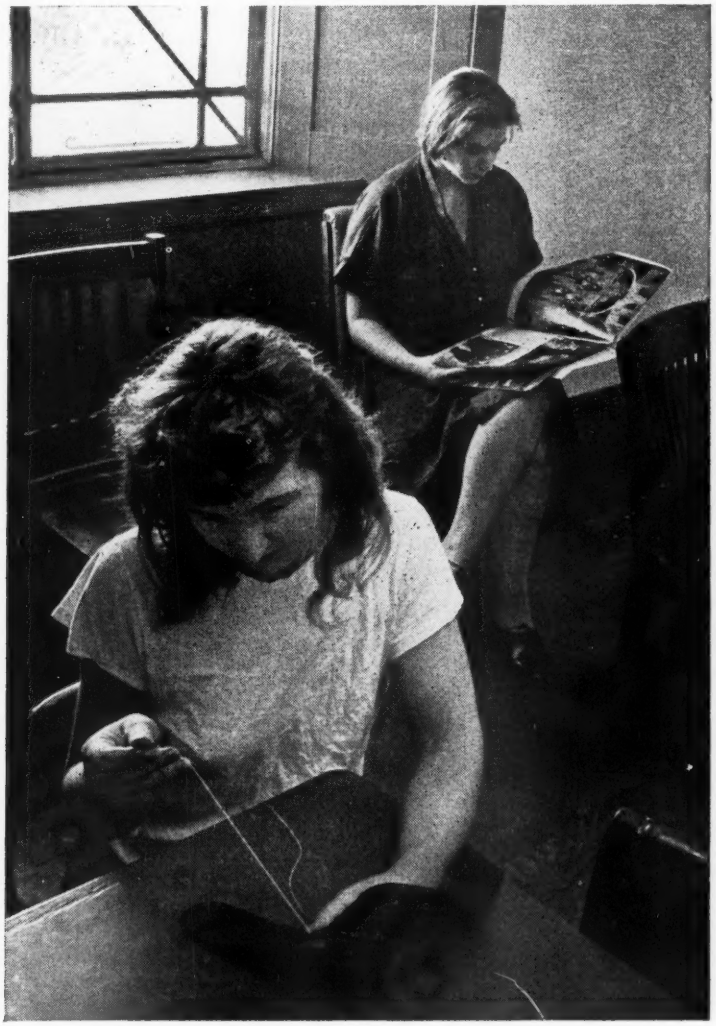

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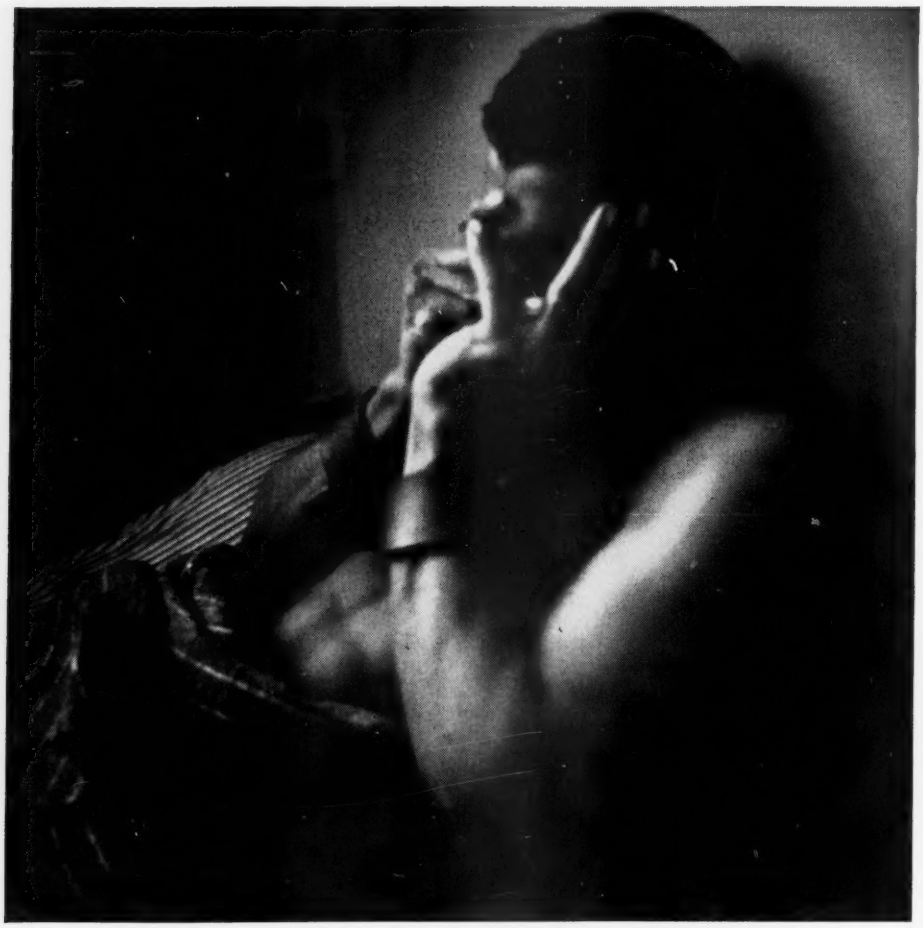

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1. Yohe, C.D.: in Chlorpromazine and Mental Health, Philadelphia, Lea & Febiger, 1955.

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DISEASES *of the* Nervous System

Effects of Chlorpromazine and Reserpine in Chronic Schizophrenic Patients

H. FREEMAN, M.D., A. L. ARNOLD, M.D., and H. S. CLINE, M.D.
Worcester, Massachusetts

The application to psychiatry of the new "tranquilizing" drugs, chlorpromazine and reserpine, has produced exceedingly favorable clinical results. There have been, however, very few controlled studies with placeboes of the "double blind" type in which the role of the enthusiasm of the psychiatrists, the ward personnel and of the patients themselves, could be evaluated; two with reserpine,[1,2] and none with chlorpromazine. This is a report of such a study in which each drug was given to a group of chronically disturbed schizophrenic patients.

The technique used in evaluating the status of the patients was as follows: After an interview a modification of the Malamud-Sands Rating Scale[3]—15 items—was scored to determine the effects upon various phases of the clinical picture. This scale is shown in Table I. The deviation from the normal in each item is rated on a six point scale on either side of the baseline and a total score is obtained by the addition of the numbers for each item. The first seven items can be observed directly and the next eight can be determined from the responses during the interview. In a general way, the gradations on the left represent those attitudes which are directed away from the individual, and those on the right indicate internally directed forms of behavior. The chief value of the rating is that it represents an attempt to quantify changes in the various elements in the behavior of the patients over the period of the study.

The subjects of the investigation were chronically agitated schizophrenic patients (Table II) in whom the possibility of spontaneous improvement was considered to be minimal. In the chlorpromazine study there were 20 male patients, who subsequent to other procedures, had undergone lobotomies. They were divided into two groups matched primarily on the basis of their rating scores and, secondarily, on the basis of age, duration of hospitalization, and years since lobotomy. As can be seen, the matching on the whole was fairly good. One group was given placebos and the other chlorpromazine, but the identity of the medication was unknown to the psychiatrist (H.S.C.), the ward personnel involved, and the patients.

In the reserpine study there were 19 female patients, matched as above. These patients had had all the usual forms of therapy, but none had been lobotomized. Again, the matching was good except for the lesser chronological age of the reserpine-treated group compared with its corresponding placebo-treated group. In this series, also, the identity of the material administered was unknown to the psychiatrist (A.L.A.), the ward personnel and the patients.

The medication was given solely by mouth and twice daily in individual envelopes so that the identity of the tablets was known only to one of us (H.F.). The placebos, of course, had an appearance identical with that of the drugs.

The results of the chlorpromazine study are shown in Figure 1. Here are depicted the mean scores for the placebo and chlorpromazine groups in successive weeks. The chlorpromazine was administered in the dos-

From the Dementia Praecox Research Project, Worcester State Hospital.
Read before the Massachusetts Society for Research in Psychiatry, October 7, 1955.

TABLE I

PSYCHIATRIC RATING SCALE

FUNCTION	6	5	4	3	2	1	Base Line	1	2	3	4	5	6
APPEARANCE	Bizarre		Decorative		Over-Meticulous			Slovenly		Untidy		Incontinent	Smearing
MOTOR ACTIVITY	Excited		Agitated		Restless			Underactive		Retarded		Stuporous	
MIMETIC EXPRESSION	Incongruous		Dramatizing		Exaggerated			Stiff		Waxy-Flexibility		Mask-Like	
RESPONSIVITY	Anaklitic		Suggestible		Dependent			Stubborn		Resistive		Negativistic	
HOSTILITY REACTIONS	Destructive		Combative		Belligerent			Self-Deprecating		Self-Mutilating		Suicidal	
SOCIALIZATION	Disruptive		Meddlesome		Out-Reaching			Shut-In		Isolated		Inaccessible	
ATTENTION	Uncontrolled		Markedly Distractible		Moderately Distractible			Preoccupied		Disparative		Completely Withdrawn	
SPEECH	Incessantly Productive		Push-of-Speech		Over-Talkative			Under-Talkative	Retarded		Blocking		Mute
MOOD	Exhilarated		Euphoric		Enthusiastic			Sombre		Despondent		Deeply Depressed	
AFFECT	Inappropriate		Explosive		Labile			Inadequate		Bland		Flat (Rigid)	
FEELING	Panic	Anxious		Tense	Hypersensitive			Phlegmatic		Dull		Apathetic	
PERCEPTION	Hallucinations		Illusions Pseudo-Hallucinations		Exaggerated Intensity			Self-Observation	Hypochondriasis		Conversions		Somatic Hallucinations
THOUGHT PROCESSES	Fragmented		Allogical Paralogical		Illogical			Obsessive Hair-Splitting		Obsessive Doubt		Rationalizing	
SUBJECTIVE REORGANIZATION	Cosmic Del. (Omnipotence)		Del. of Grand.	Ideas of Pers.	Ideas of Inf.	Ideas of Refer. (Autism)		Ideas of Inferiority	Self-Accusatory		Somatic Delusions		Nihilistic
INSIGHT	Negation of Problem		Prob. Exogen.	Recog. of Prob. without Concern		Shifting of Blame		Self Hyper-Critical	Add. of Non-Exist. Problems		Despairing Self-Blame		Attitude of Comp.Helplessness

TABLE II

Means and Ranges of Variables Used in Matcing Patients for Chlorpromazine or Reserpine Groups Versus Corresponding Placebo Groups

	CHLORPROMAZINE				RESERPINE			
	Placebo$_{10}$		*Chlorpromazine*$_{10}$		*Placebo*$_{10}$		*Reserpine*$_{9}$	
	Mean	*Range*	*Mean*	*Range*	*Mean*	*Range*	*Mean*	*Range*
Age	36.3	23 - 49	38.4	30 - 47	52.2	34 - 67	44.6	23 - 66
Years in Hospital	11.2	4 - 27	9.4	4 - 17	16.1	7 - 42	15.8	2 - 44
Years Post-Lobotomy	7.5	1 - 16	8.2	1 - 13	None		None	
Intial Rating Score	31.4	19 - 38	34.0	27 - 48	50.5	25 - 75	50.0	17 - 73

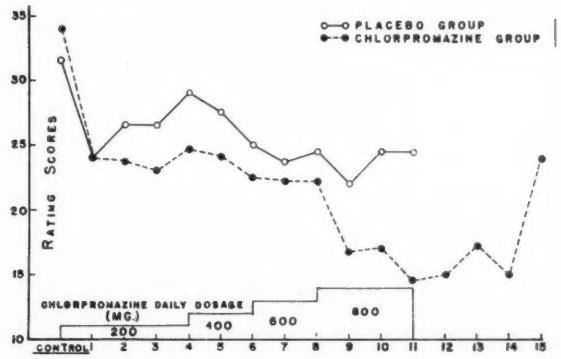

Fig. 1. Means of rating scores for placebo-treated and chlorpromazine-treated groups.

age noted at the bottom of the figure, 200 mg. daily for the first four weeks, 400 mg. daily for the next two weeks, 600 mg. daily for the next two weeks, 800 mg. daily for the next three weeks and then placebos for the next four weeks.

The mean scores show a sudden drop in the first week of treatment, then a variable degree of fluctuation over the next seven weeks, but no consistent change. It was for this reason that the dosage was increased. It was not until the dosage had been increased to 800 mg. daily that the chlorpromazine group showed a decrease in its mean score. This was noted within a week and continued to drop irregularly in the next two weeks. It is evident, then, that for this group of patients the threshold dosage lay between 600-800 mg. daily. At the end of three weeks of medication at this level of dosage, the patients who were taking chlorpromazine were given placebos. For three weeks there was no essential change in the mean score, but during the fourth week the score rose again above the level noted preceding the 800 mg. dosage period. It is apparent that the "tranquilizing" effect of the drug lasts between three-four weeks after the medication is omitted.

There are several points of interest in this trend which may be described in more detail. Initially, the chlorpromazine group had a slightly higher score than the placebo group. This was due primarily to the fact that the ratings for "motor activity," "appearance," "affect" and "subjective reorganization" (delusions) were higher. During the first week of the study the scores dropped in both groups, but in the chlorpromazine-treated patients there was a greater fall in these same items so that the mean scores for the first week of medication were the same. The decrease in scoring may be primarily due to the enthusiastic hopefulness of both the psychiatric personnel and the patients at the onset of a new therapeutic study, so that the patient-doctor rapport was increased and the abnormal phenomena seemed either not so abnormal or were less obviously displayed. Certainly, the gross scores per individual showed a lessening in nine of the ten patients in each group, showing a universality of operating factors.

Following the initial drop in scores there is a secondary rise which reaches its maximum in the fourth week of the study and which is more marked in the placebo-treated group. This increase was present in six of the nine patients in each group. Three patients in each group showed a decrease. The distribution of trends for each group was the same, but two of the chlorpromazine-treated patients (on a dosage of 200 mg. daily) showed such a marked decrease in scores as almost to offset the increases in the six. There was an additional patient in each group who was so disturbed as to necessitate being kept in seclusion. Interviews and ratings were not obtained during the early part of the study.

The reason for the increase in scoring is obscure. The patients were living on three different wards, an equal number from each group on each ward. It would, therefore, be

unlikely that some factor common to the hospital environment would affect patients on different wards. It is also difficult to presume that an endogeneous variability would affect 12 out of 18 patients simultaneously. It would seem more likely that the variable factor is the judgment of the psychiatrist.

At any rate, the general level of scores for each group was essentially the same from the first to the eighth week of medication, so that we may conclude that the dosage of chlorpromazine up to this point was not sufficient to affect the group as a whole. At a dosage of 800 mg. of chlorpromazine, the values for the two groups differentiate. So far as the scores for individual patients are concerned, a comparison of the scores before and after three weeks of chlorpromazine (800 mg. daily dosage) shows that all of the chlorpromazine-treated patients and three of the placebo-treated patients show a decrease. The only patients to show an increase in score are seven of the placebo-treated subjects.

In order to determine what elements of the rating scale changed during this period of maximum dosage of chlorpromazine, we have calculated the change in the individual items during this period for the placebo-treated and the chlorpromazine-treated groups. The results are shown in Figure 2, in which for each item there is indicated the change in each of the two groups from the level before the 800 mg. daily dosage was instituted to the level attained after three weeks of this dosage. Deviations to the left of the center line mean an increase in the score in the direction of worsening; to the right of the center line, a decrease or betterment of the score. Since our interest lies in the change produced by the drug above the placebo effect, the scores are ranked on the basis of the effect on the placebo group, from the least to the most.

The items in the placebo-treated group show an increase in score for five; no change in two; and a decrease in eight—essentially a random trend within the .5 unit level.

In the case of the chlorpromazine-treated group, the trend is in all instances, except for 'appearance," towards a diminution (or betterment) of the scores. Since we have already considered that a change of less than .5 unit is of random nature, we may consider as significant only those changes beyond that point, of which there are eight

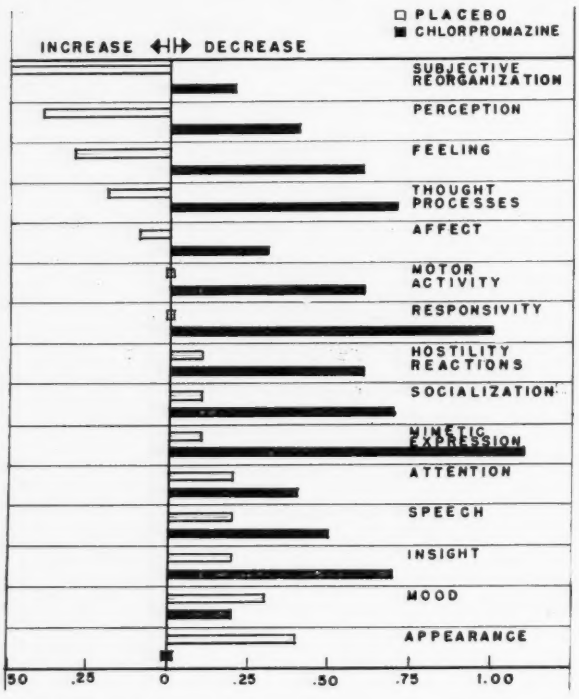

Fig. 2. Changes in mean rating scores for each item for the placebo and medicated groups during the three week period of administering chlorpromazine at a daily dosage of 800 mg.

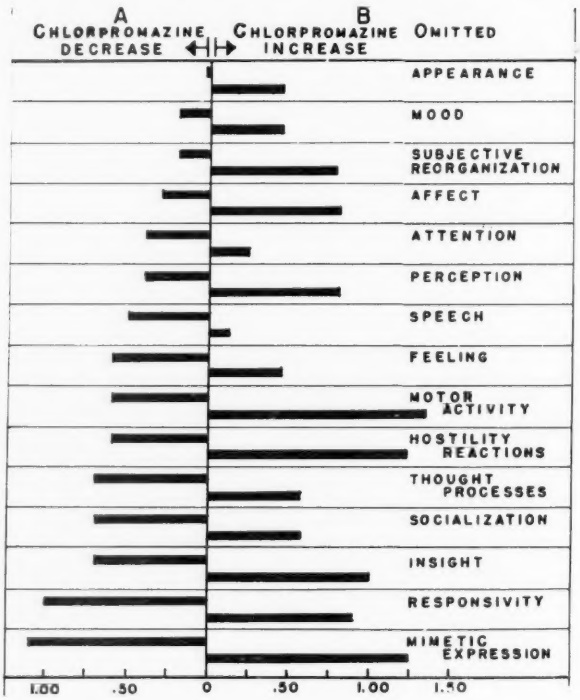

Fig. 3. Changes in mean rating scores for each item (A) during chlorpromazine therapy (800 mg. daily dosage for three weeks), (B) during omission of chlorpromazine for four weeks.

items. As a further arbitrary criterion we may add that the difference between the values of the two groups in a corresponding item should be at least another half unit on the improvement side. This eliminates one item, "feeling," and leaves us with presumably significant changes in the chlorpromazine-treated group in "thought processes," "motor activity," "responsivity," "hostility reactions," "socialization," 'mimetic expression" and "insight." While most of these items have to do with improvement in interpersonal relations, it is encouraging that in this group of chronic lobotomized schizophrenic patients there is a trend to improvement in thinking processes.

As has been noted in Figure 1, once the medication has been omitted there is a reversion to a previous score, or even above it, between the third and fourth weeks. The individual scores showed this "rebound" in all but one subject. A study of the individual items shows this same trend. In Figure 3, is shown a comparison of the changes in the items while taking chlorpromazine (800 mg. daily dosage) with those after omission of the drug for four weeks. On the left is shown the decrease in values under this dosage; on the right the increases after omission. It may be seen that with the exception of "speech" and "attention," all the items on the right changed about as much or more (in the opposite direction) as the ones on the left. The most striking reversals are seen for "subjective reorganization" (delusions), "affect," "perception" (hallucinations), "motor activity" and "hostility reactions." Thus, in both thinking processes and ward behavior the patient was worse than he was before, evidence of a merely suppressive effect of the drug.

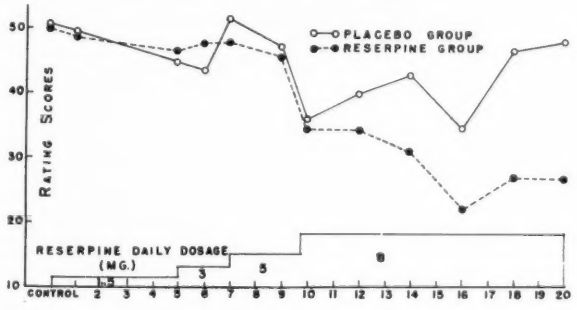

Fig. 4. Means of rating scores for placebo-treated and reserpine-treated groups.

The results of the reserpine study are shown in Figure 4. The mean rating scores of the group receiving reserpine and the group receiving placebos are plotted for twenty weeks, with the oral reserpine dosage indicated below. Initially, a daily dose of 1.5 mg. was given for a period of five weeks, and then at approximately two-and-a-half week intervals the dose was raised successively to 3.0 mg. and 5.0 mg. daily. Finally, 8.0 mg. daily were given, starting at the end of the ninth week; this was continued to the end of the medication period.

A rather marked fluctuation in the arithmetical mean of rating scores in both groups during the first ten weeks is readily apparent. Overall, during this period there was a drop of fifteen points which appears unrelated to the medication in any way, since the placebo group showed an identical overall "improvement". That the groups were well-matched is borne out by the concurrent while fluctuating course taken by both groups for two and a half months.

After reserpine was given in larger dosage—8.0 mg. daily—however, a progressively increasing difference between the two groups appears until the end of the medication period. A decrease in scores during this time was seen in six of the nine patients given reserpine and two of the ten patients given placebos. The response to this level of dosage makes it evident why Sommerness, et al.[1] got no difference in behavioral improvement between a group of schizophrenic patients blindly treated with a 2 mg. daily dosage of reserpine and another treated with placebos; it also indicates why Campden-Main and Wegielski[2] saw little dramatic improvement in their blindly treated schizophrenic patients given 5 mg. of reserpine over their placebo-treated patients.

Both groups of patients in this part of the study were on the same ward, and it is likely that the wide fluctuations noted in the mean scores are related to events occurring on the ward, although, again, variation in the judgment of the psychiatrist cannot be entirely eliminated.

Because of this wide fluctuation in the actual level throughout the study, and because the groups proved to be well matched

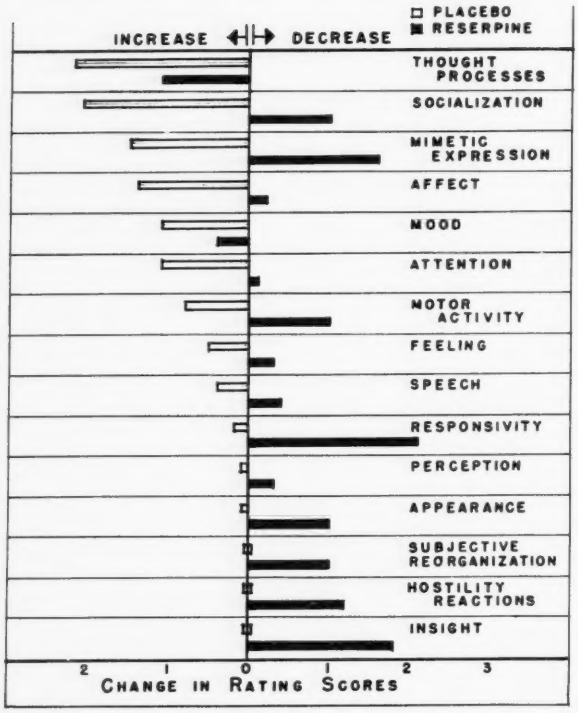

Fig. 5. Changes in mean item scores in 10 placebo-treated and 9 reserpine-treated patients before and after ten weeks daily dosage of 8 mg. of reserpine.

as regards rating scores, the actual score level as such is considered less significant of medication effect than is the difference in the two groups. Considering this difference significant, we have made a preliminary analysis of the changes in the scores of the individual items. Figure 5 indicates the direction and amount of change in mean scores for the 15 individual items in the placebo-treated and reserpine-treated groups, comparing the levels before and after 10 weeks' daily dosage at the 8 mg. level. For the placebo group, the vaues are in the direction of increased scores or no change. For the reserpine group, the trend is toward a decrease or betterment of the scores in all items but two. The magniture of the changes in the item scores under reserpine are about twice as great as those under chlorpromazine, probably due to the higher levels of the scores in the former group.

The increased scores in the placebo group may be regarded as equal to zero, since we cannot conceive that the patients got worse under this regimen. Again, arbitrarily, we may say that changes in the reserpine group of 1.0 units or more may have some significance. On this basis, we may say that eight of the items may be affected by the administration of the drug and, of these, six are the same as those improved under chlorpromazine administration, i.e., "socialization," "mimetic expression," "motor activity," "responsivity,' "hostility reactions" and 'insight."

Again, it is evident that the changes represent decreased anxiety in the presence of other people, allowing emotional interaction and lessening the necessity for withdrawal. There was no essential effect on the patients' specific problems or the "psychotic" solutions to which they had resorted except in the improvement in "insight."

It is unwise, statistically, to compare the effects of two different drugs with different periods of medication in such diverse groups. Nevertheless, it would be of interest to compare the effects upon the various items. Consequently, we have made such a comparison in Figure 6, in which are shown the percentage changes in the rating scores for each item during the period of maximum dosage for each drug (for chlorpromazine, three weeks at 800 mg. daily; for reserpine,

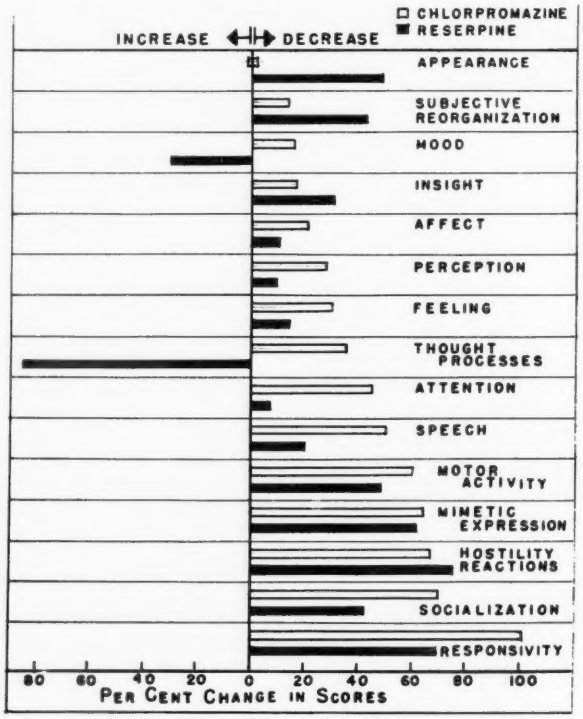

Fig. 6. Per cent changes in mean item scores during period of maximum dosage of chlorpromazine (800 mg.) and reserpine (8 mg.) in the two drug-treated groups.

ten weeks at 8 mg.). The items are ranged in rank order of the changes with chlorpromazine from the smallest to the largest. In this instance, we are disregarding the effects on the corresponding placebo groups.

The figures show that for the chlorpromazine group, the greatest changes are noted in the items relating to ward behavior (the last five). The reserpine group changes are somewhat more irregular, but again the greatest effects are noted in the same items with some additions in "appearance" and "subjective reorganization" (delusions). In general, for these items of improved interpersonal relations the proportional change for both drugs is quite similar, despite the differences in the levels of the raw item scores and the greater absolute decrease in these values shown by the reserpine-treated group (Figure 5) as compared with the chlorpromazine-treated group (Figure 2).

Discussion

The foregoing data would seem to lead to the following conclusions:

1. The application of any new therapeutic procedure is apt to result in at least a mild degree of improvement in the clinical status of psychiatric patients, even those who have been hospitalized for long periods. It is probably true that greater improvement could be expected where the hospital personnel were dealing knowingly with a presumably potent agent rather than, as in the present study, where "double blind" controls were utilized. For this reason, slight degrees of improvement may be discounted as being due to the altered environmental situation resulting from the suggestive effect of enthusiasm.

2. Beyond this point, however, these drugs do produce effects which, in the case of these presumably hopelessly psychotic patients, are definitely beneficial. Such improvements are primarily in the ward behavior and interpersonal attitudes of the patients, although change is noted in the patients' own evaluation of the psychotic process (insight).

3. In the type of patient whom we have studied large doses are necessary to produce even these slight to moderate changes. This fact is consistent with the tolerance of chronic schizophrenic subjects to other drugs. Even with these large doses, within the period of time utilized here, the effects seem to be only suppressive and not curative.

4. So far as a comparison of the two drugs is concerned, it would seem that reserpine takes a longer time to have an effect than does chlorpromazine. Both drugs have a relatively similar action in their greater specificity for increasing socialization than in altering intrinsic components of the psychotic process.

Summary

Two groups of chronic schizophrenic patients were studied by the "double blind" technique. One group of 20 lobotomized male patients was divided into two matched sub-groups, of which one received chlorpromazine and the other placebos. Another group of 19 agitated female patients was divided into two matched sub-groups, of which one received reserpine and the other placebos. The Malamud-Sands Rating was used to evaluate the effects of the drugs. The rating scores of the two placebo-treated groups could not be differentiated from those of their corresponding matched groups until the dosages had been raised, in the case of chlorpromazine to 800 mg. daily, and for reserpine to 8 mg. daily. After omission of chlorpromazine, the therapeutic effects lasted for at least three weeks. In the case of both drugs, the improvement was noted most markedly in reduction of hostility and aggression, but insight was improved and there was a reduction in delusional content.

Acknowledgment: We wish to acknowledge our gratitude to the Smith, Kline and French Company for supplies of chlorpromazine and identical placebos, and to the Ciba Pharmaceutical Products, Inc., and E. R. Squibb and Sons for supplies of reserpine and identical placebos.

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Insulin Coma Therapy in Patients Resistant to Chemotherapy

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Since introduction by Sakel of insulin coma therapy (ICT) in the treatment of mental disorders, numerous papers have been published on this subject. The consensus of opinion, with a few exceptions, is that ICT is the treatment of choice in schizophrenia. Careful study of reports critical of ICT usually reveal that either the number of comas per patient was small or the hypoglycemic state and duration of comas were brief.

From our experience in the past five years (1949-1954) in a fifty-bed insulin unit in a hospital with a population of over 7,000 patients, there were 758 cases treated with ICT. Over 80 per cent improved as a result of this type of therapy, of which better than 50 per cent were able to leave the hospital. The percentage of readmissions was less than 10 per cent. These results are hardly equalled by any of the new drugs. The enthusiasm for the new drugs (reserpine and chlorpromazine) was so great that it was thought that they would be a complete cure for schizophrenia and that no somatic therapy would be required. As a result, our insulin unit suffered the same fate as a number of other insulin units. The female division was closed because of a shortage of candidates for this type of therapy inasmuch as all were given drug therapy.

However, it became evident that the new agents do not always produce the marvelous results reported, but as a matter of fact, many patients have become worse.

Our experience agrees with the opinion of Wortis who, on the basis of available literature, stated that chorpromazine and reserpine is contra-indicated in most cases of apathetic and akinetic depressions, in neurasthenic and obsessive states. Bleuler and Stoll believe that some types of schizophrenics react more favorably with ICT than chlorpromazine or reserpine.

Some of the failures on drug therapy in this hospital were subsequently placed on ICT, and this is a report of the results of treatment of 22 patients with ICT. All these patients had received a full course of reserpine for a period of three to six months with dosages of three to 13 milligrams daily. Three of the patients also received a course of chlorpromazine averaging 300 to 500 milligrams daily. One patient received doses as high as 1,200 milligrams daily for a period of four weeks until she developed a parkinsonism-like syndrome with no improvement in her mental condition. These 22 patients did not show any beneficial effect as a result of drug therapy; on the contrary, some became more depressed, others more disturbed. In some instances where there was improvement in behavior there was no change in the psychosis.

Insulin was administered in routine manner, that is, patients were given injections of insulin at 7:00 A.M. and the hypoglycemic state was terminated at 11 A.M. The duration of coma was about one hour, and the number of comas totaled 40-60. There were more complications during ICT with this group than usually occurs with ICT. Two patients experienced prolonged comas; one during her eleventh coma; and one during her 57th coma. Also, two patients developed cardio-vascular difficulties during therapy, one during her 30th coma, and one during her 20th coma. These four patients responded to the emergency measures taken and recovered completely with no sequela in their physical condition, but mentally they remained unimproved. All four were taken off ICT. Whether the greater percentage of complications which occurred during ICT with this group had some connection with the drugs received prior to insulin therapy

From Rockland State Hospital.

will have to be determined and evaluated.

Of the 22 patients (age 17-41), only 19 completed a full course of ICT (one patient taken off ICT because of complications had received almost a full course, 57 comas.) Of the 19 patients, eight were much improved (six of these are now on convalescent status.) Four were improved, and seven remained unimproved. Of the last seven, four received additional combined reserpine-chlorpromazine therapy without improvement. Five unimproved cases were given an additional course of ECT. One was much improved and four were improved. While on ICT, no additional drugs were given except in one case, where 300 milligrams of chlorpromazine was given every afternoon. The same patient prior to ICT, had a course of reserpine followed by a course of chlorpromazine, receiving high doses with no results, and only after ICT was she able to leave the hospital. The following is a detailed report of this case:

This patient, a 27 year old, attractive girl, the youngest of nine siblings, has as a child always been rather introverted and insecure and inferior. She was self-centered and passive in her relations with other people. She had had an affair with a brother-in-law at the age of fifteen, having sexual relations with him for a period of one and one-half years. However, she experienced no orgasm with him. She graduated from high school at 18.

After her marriage, she was very happy with her husband for several years, but, "happy" only because she had finally succeeded in getting married, as she had believed she would never be able to marry. However, she also failed to experience any orgasm with her husband, achieving sexual gratification by masturbation after coitus, as well as at other times; also, by masturbation with another woman. About five years prior to hospitalization, she became extremely irritable, fearful of any sexual contact, had fears of dying, guilt feelings about her "love affair," and felt she should be punished because of this.

She became very unhappy and increasingly demanding of everyone. Psychotherapy combined with ECT for about two years brought forth no improvement. Her condition grew worse and worse. As she was afraid to remain at home alone, she left her home and slept with various relatives. Finally, she admitted herself to this hospital. In the hospital she received a course of reserpine for three months (doses: minimal—two milligrams; maximal —13 milligrams), a course of chlorpromazine for about three months with doses as high as 1,200 milligrams daily, individual psychotherapy and group therapy, all with no results. She continued to be introverted, depressed, seclusive, insecure, withdrawn, with vague paranoid ideas, preoccupied with homosexual ideas, phantasies, feelings of inferiority and inadequacy.

Finally, it was decided to place this woman on ICT and she received a full course of insulin coma therapy consisting of 53 fairly deep comas. There was considerable improvement in her condition as a result of this type of therapy, in that most of her anxiety was no longer apparent, and there was a great decrease in the severity of other symptoms. She started to show more interest in her appearance and began to participate in ward activities. She improved to such a degree that she requested to be released from the hospital. At present, this woman continues to make a satisfactory extra-mural adjustment.

While the results of treatment with ICT in this group do not compare favorably with the usual results achieved with ICT in this hospital, it should be borne in mind that:

1) ICT in this group was delayed for about 10-12 months because of the chemotherapy given to the patients.

(2) The patients in this group did not receive combined ECT which is routine procedure in this hospital for patients who do not respond to ICT alone.

(3) It should also be remembered that practically all of the 22 patients in this study were chronic schizophrenics with a long duration of illness. Only two were sick one year; five less than two years; seven were sick over two years; six over five years, and two over ten years; thus, 15 patients were sick over two years when prognosis becomes poor.

(4) Owing to the number of complications, total patients discontinued before treatment was completed was much greater than usual during ICT.

Taking these factors into consideration, it may be considered that the results were rather gratifying. The patients who were least affected by insulin coma therapy were the dull, apathetic group whose illness was frequently of long duration and who showed considerable evidence of regression and deterioration.

In the eight patients much improved, two were DPC; one was already released from the hospital; two were DPP, both released; four were DPM. From those, three left the hospital. All the three patients had well-preserved personalities. They showed many

neurotic symptoms in a schizophrenic setting; their anxiety was severe, diffuse, and they were under constant tension. They are cases described by Hoch and Polatin as a pseudo-neurotic form of schizophrenia.

Summary and Conclusion

Results of treatment with ICT in 22 patients, failures in drug therapy, have been described.

Four patients developed severe complications during therapy necessitating discontinuance of treatment.

Four received additional chlorpromazine with no results in their mental condition.

Five received additional ECT.

One patient received ICT with chlorpromazine.

Six patients were able to leave the hospital on convalescent status. Three cases with so-called pseudo-neurotic schizophrenia usually show a poor response to ICT. One can speculate that in this group, the drug therapy which preceeded insulin made the patients more responsive to ICT.

While it is obvious that the new drugs are important tools in the fight against mental disease, nevertheless, we cannot write off ECT and ICT as obsolete forms of treatment in mental disorders.

It is believed that treatment with ECT and/or ICT in suitable cases should not be unduly delayed in patients who do not respond to drug therapy, otherwise valuable time is lost, and the longer the duration of illness, the longer the patient is in the hospital, the more doubtful becomes the prognosis. Whether the outcome of ICT in this group was influenced by the drug therapy received for several months will have to be evaluated. In a study (to be published) in which patients received ICT together with 75 milligrams of chlorpromazine, some very interesting observations were made and it is believed that further investigations of use of chemotherapy in conjunction with ICT and/or ECT will give valuable data as to the degree of efficiency of this type of combined therapy. There is growing realization that in the treatment of mental illnesses, the physiodynamic (shock and drug therapy) approach alone is inadequate, unless the gains are consolidated with psychotherapeutic and social approaches.

TABLE I

Diagnosis and Clinical Results of Patients Treated With ICT

	Unimproved	Improved	Much Improved	Total
DPC	2	2	2	6
DPP	3	1	2	6
DPM	3	1	4	8
DPH	2			2
TOTAL	10	4	8*	22

*Six left the hospital on convalescent status.

TABLE II

Results of Treatment in Relation to Duration of Illness

Duration of Illness	Unimproved		Much Improved	Total
I year			2	2
Less than 2 years	1	1	3	5
2-5 years	4	1	2	7
5-10 years	4	1	1	6
Total	10	4	8*	22

*Six left the hospital on convalescent status.

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Management of Convulsive Patients by Group Therapy

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The purpose of this paper is to suggest group therapy as a means of better medical and psychiatric management of the epileptic patient. The epileptic has many anxieties and emotional disturbances related to the seizures and to our prejudiced culture. Control of the incidence of seizures, therefore, should not only entail the administration of anti-convulsant medication, but if the seizure threshold is to be elevated with security, many personality conflicts may have to be resolved.

A two-person analysis of conflict often lends less urge to social structuring than that which is needed so much by the convulsive patient. Group therapy permits variable interactions for achieving social reality. It also offers opportunity for emotional integration and occasion for acting out one's inner psychic conflicts. Thus, it is believed that group psychotherapy is of great value in the treatment of epilepsy. The powers of group therapy for epileptics have not been fully explored, and in only a small way have its potentials been revealed. Such active and direct resynthesis seems to be of strong and serviceable use, as borne out by over five years' experience with two such groups.

These "open-ended" groups arose out of the awareness of need for social interplay where multi-varied face-to-face situations could permit more mature integration on somewhat of a controlled basis. As members left the group, new ones were added in "open-ended" fashion. Adherence to the usual empiric methods of group therapy was maintained. The groups were formed in 1950, of known epileptic war veterans whose low seizure thresholds could possibly profit by a more routine healthy mode of living. Patients were chosen whose personality problems handicapped better seizure-control and who presented poor rapport in individual therapy. Psychological and social evaluation was obtained in each instance before any therapy began. Each patient was in individual therapy prior to the group sessions. Each group has met once per month with full and voluntary attendance. Each patient keeps a diary of his seizures.

Seizures have lessened in incidence. Significant changes in attitude toward seizures have been exemplified by less resentment toward open discussion of the convulsions. Where poor rapport existed, this same negativism became positive relationship within a group. Resentment and shame have given way to curiosity of the total problem of epilepsy. Each has vied for opportunity to describe his own attacks. Aggression has been channeled into more acceptable relationships. Home behavior has been reported, by patients themselves as well as by relatives, as improved. Occupational progress has been remarkable. Of the original group that started, 50 per cent were employed, and of the present active groups, 70 per cent are employed. This explains why the groups are "open-ended," for without such, the members would, we know by experience, become employed and adjust so well that the groups would successfully disappear. So, we keep four to six per group, which makes for suitable group activity in a small office setting.

Those in group activity at this time reported a total of 99 seizures in the past two months. This may be compared to the total spells of these patients for a two-month period prior to group therapy—128. Significant? Yes; but the biggest advantage is the ability developed by the convulsive to live with his environment in a comfortable manner. All topics discussed in group sessions have been spontaneous and group chosen, with the only direction being toward the consideration of epilepsy. Self-depreciation, limitations, cultural viewpoints, religious considerations, history, future, et cetera, of epileptic persons have all been openly discussed. There has been progressively less dependence on the need for approval from the therapist. Group unity has come about to such extent that socialization follows the sessions in the form of hallway and sidewalk discussions. Social adjustment prevails even further into their work, and their play, and their total environment.

Motivation in the Alcoholic

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For many centuries it has been an unanswered puzzle to civilization why a small percentage of human beings consume alcohol to a point where their efficiency is hampered, their personality altered and where they endanger their somatic integrity and their mental soundness. Truly a large percentage of our adult population has experienced the accidental or even the intentional overuse of alcohol but this very over use has usually convinced them that such behavior is unacceptable both to themselves and to society in general.

Civilization and later the medical and psychiatric profession has been at a loss to explain the behavior of certain individuals who persist in continued abuse of the toxifying properties of ethyl alcohol. Understandably many people considered these chronic overusers as simply hedonistic pleasure-seekers who were in a continuous state of Elysian bliss and entirely free of any of the tensions or cares of the world. Hence the punitive attitude that has been assumed towards these individuals. They reasoned punishment in some form should be the answer, so jails were clogged with the chronic users of alcohol. When this failed they went further and reasoned that all men should be denied the pleasure to be derived from the fermented grape, and the Volstead Act became the law of the land. If ever a law of man back-fired, this was it, and repeal was inevitable. As long as the phenomenon of fermentation is in existence man will obtain his beverage alcohol if he so desires. We must recognize that there is nothing fundamentally wrong with alcohol; rather it is the individual who is wrong. Gasoline does not cause auto accidents; rather it is the driver who holds the wheel that is responsible for the smash-ups.

Much progress has been made in understanding and helping the alcoholic since 1941 when the attention of the country was focused upon the alcoholic by Jack Alexander's article in the Saturday Evening Post, entitled "Alcoholics Anonymous." This report of the apparent and obvious therapeutic success of this fellowship of ex-drunks caused many of the psychiatric brethren to take stock of their own patent failures and with an open mind attempt to ferret out the modus operandi supplied by a group of recovered alcoholics who seemed to have the answers that we had sought but had seemingly missed somewhere along the line.

Prior to this time, I know of no therapists who claimed any notable degree of success in treating alcoholics. This applies to medical, psychiatric, religious and lay therapists. True, there were recoveries from alcoholism but the percentage was so small and the successes so covert that little acclaim was due anyone. All too frequently even our most brilliant "cures" succumbed to the bottle after varying lengths of time much to the discouragement and bewilderment of all concerned, including the victim.

The enigma of the alcoholic became the anathema of the average psychiatrist and many either flatly refused to treat them or half-heartedly entered into a mere sobering up regime, fully cognizant that the procedure was but a stopgap and would be repeated again and again at unpredictable intervals; seemingly without rhyme or reason, which in fact it actually was.

With the advent of Alcoholics Anonymous and its apparent success many of us were forced to revise our estimate and our concept of the alcoholic personality. Until then we had been descriptive but not understanding of the alcoholic. True, we delineated in minute detail his Ego-weakness and the constitutional and environmental causation thereof. We recognized his impatience and intolerance and his inability to withstand frustration and disappointment. Triumphantly we emerged from the psychological laboratory or from the psychiatric interview with livid descriptions of his egomania and his expansive euphoria; of his rich phantasy life which had become a sub-

stitute for achievement. All this was more ably depicted by Charles Jackson through the character of Roy Burnham in his Novel, "Lost Weekend."

Thus began a renaissance period in psychotherapy for the alcoholic. Dr. John F. Stouffer, chief psychiatrist at Philadelphia General Hospital at that time was quick to accord members of Alcoholics Anonymous the same privileges as staff members in attending the alcoholics on the psychiatric wards. Other psychiatrists undertook the study and interpretation of the reasons for the success of this lay organization. Among the first of these was Dr. Harry Tiebout[2] who reported in the American Journal of Psychiatry on "The therapeutic Mechanisms of Alcoholics Anonymous."

Later Dr. Tiebout published "The Concept of Surrender in the Therapeutic Process With Special Reference to Alcoholism"[3] and even later his article on "Surrender versus Compliance in the Therapy of Alcoholism."[4] These were I am sure the result of his honest investigation into the Alcoholics Anonymous movement.

Probably the most valuable lesson that we learned was that here was one disease that we as physicians could not cure. It required that the therapy must arise within the patient himself. True, we could be of help in many ways. We could help prevent the crises and solve the problems that cause the patient to surrender to his disease. We could provide the instruments that he would need—personal counselling, direct or indirect. We could aid him to see and overcome his tensions, fears and anxieties; to reconstruct the damaged personality we had so glibly described, but until that spark of insight, decision, resignation or surrender was present, we were helpless. We now accept the fact that we cannot stop drinking for the alcoholic and until such time as he is genuinely desirous of attaining total abstinence we can do little except in an advisory capacity to his family, employers and friends.

This, we have learned about the motivation of the alcoholic from the personal viewpoint and I do not offer it as any news, rather would I mention the broader social or general motivation which is the next step and is the logical outgrowth of the individual or personal motivation of the alcoholic.

Progress in public health usually is the result of leadership of professional people. When a condition becomes so prevalent that it affects a sizable segment of the population, research defines the cause, the treatment and the preventive measures necessary. This has been more difficult in the field of alcoholism. Little prestige is attached to work in the field of alcoholism, and professional people are reluctant to become identified with it because of the sense of frustration they have experienced in the past in working with alcoholics. Nonetheless in the last decade one of the dramatic public health movements of our generation has occurred. It is the rapid development of tax-supported diagnostic and treatment facilities for alcoholics at the state level.

As an outgrowth of the Yale School on Alcohol Studies, The National Committee on Alcoholism was established. The three concepts of this Committee are:

1. The alcoholic is a sick person and alcoholism is a disease.
2. The alcoholic can recover and is worth helping.
3. Alcoholism is our fourth largest health problem and is therefore a social responsibility.

We as physicians can accept these concepts at least intellectually and whether we actually feel them or merely give lip-service remains to be seen. The U. S. Public Health Service agreed with these concepts but had no proposals to make. Much to its credit, however, the U. S. Public Health Service has done a commendable job in promoting studies in the use of alcohol and providing facilities wherever possible for the treatment of alcoholism.

This social approach to the problems of the alcoholic is one of education primarily. It requires education of our public officials at every level. The medieval moralistic beliefs about the wilful depravity and hedonistic self-indulgence of the alcoholic dies hard. Our social conscience still demands that we punish the alcoholic as well as the drunk. One look at the police court on Monday morning loudly attests that we continue

to "treat" the alcoholic by jail detention. In the city of Denver 200 men are serving sentences in the county jail for drunkenness but not one tax supported bed is available to the sick alcoholics, short of convulsions, delirium tremens or commitment procedures.

Historically this type of thinking was directed toward the mentally ill and the resistance, stigma, and reproach are usually expressed by many people when they say: "Well, if he were any good he would have straightened out." And today the psychoneurotic takes the brunt of this type of thinking and it is usually expressed by the remark: "It's your imagination; why don't you use your will power—if you have any."

To interpret to the public the underlying dynamics of the alcoholic and to emphasize the range and scope of the alcoholic population and translating these factors into comprehensible patterns that make sense to a significant segment of the population has not been an easy task. But with the programs now in operation and contemplated and with the success that is beginning to show we hope to change some of the false ideas and concepts about the alcoholic. In the meantime much can be done to help those who still suffer and facilities are constantly being added toward that purpose.

State Hospital programs exist in seven states, Arkansas, Idaho, Illinois, Iowa, Mississippi, Montana, and Nebraska. Montana especially has a very active series of committees functioning through the Department of Health. They have set up a comprehensive program which will be recommended to the legislature at the next session. These hospital programs are considered as a minimal step in the right direction but each little bit helps and success here can lay the groundwork for more-inclusive activities later. And in the meantime some beds are made available for the sick alcoholics.

Study Commissions are presently active in seven states, Washington, Arizona, Ohio, West Virginia, Kentucky, Tennessee and South Carolina. These commissions fall into two categories. A sub-committee of the state legislature is set up and given five to ten thousand dollars to do a comprehensive survey of the needs of the state; or the Governor is authorized to appoint a study committee with a definite terminal date of its authority, with instructions to report back to the legislature by a fixed date.

Integrated Agencies. In these agencies which now exist in fifteen states largely in the northeastern United States, the responsibility for an alcoholism program is assigned to an existing governmental agency or bureau such as the Department of Health in Massachusetts, or the Department of Mental Hygiene in other states. There are wide differences in integrated agencies in respect to thir powers, budget, staff and programs. Integrated programs are functioning in Delaware, Indiana, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, New York North Carolina, Pennsylvania, Rhode Island, South Carolina, Virginia, Wisconsin, Maine, and the District of Columbia. The efficacy of this type of program is too dependent upon the head of the agency under which it operates. If the head of the Department of Mental Hygiene or of the Health Department has little interest in the problems of alcoholism or even an active antipathy, the program will suffer.

Special Agencies. Earlier I referred to a number of tax-supported programs and mentioned that this seemed to be a dramatic movement. These programs are grouped according to their structure and in terms of administrative and legislative patterns. The special agencies in the United States are usually called commissions or boards. They are created by an act of the legislature, and are given certain powers and provision is made for their financing.

There is an academic objection to these special agencies, in that the trend in government has been toward a reduction and consolidation of bureaus rather than toward the establishment of more special agencies. There is some criticism of the establishment of another health agency on the grounds that it should be incorporated into the existing Department of Health or Department of Mental Hygiene. But as I mentioned the program would be dependent upon the head of the department's attitude towards alcoholism and it would succeed or fail on that basis alone.

At the present time there are special agencies in 14 of our states, Alabama, Connecti-

cut, California, Colorado, Georgia, Kansas, Louisiana, Michigan, New Mexico, North Dakota, Oregon, Texas, Vermont and Utah.

I will mention two of these programs in greater detail. The first historically and widest in scope is in Connecticut. This commission was created as an outgrowth of the Yale School on Alcohol Studies. During its first few years of operation, the commission concentrated mainly, but not exclusively on rehabilitation work rather than research or education. Five full-time clinics are maintained in different cities. A fifty bed hospital is operated in Hartford. Some attention has been given recently to education and research the latter being conducted in cooperation with the Yale University Laboratory of Applied Physiology and the Yale Center of Alcohol Studies. The Commission distributes literature and sends speakers to communities throughout the state. It is planned to establish additional out-patient clinics and community services, dependent on availability of additional funds.

The Utah Commission has done a commendable job of education through the medium of the press, radio and television. It has also obtained the cooperation of the University of Utah in taking over its summer school on alcohol studies which has been the training center for workers in the field of alcoholism throughout the West. It has supported and directed research in alcoholism. It has been instrumental in the establishment of rehabilitation centers in Salt Lake City for men and women and it cooperates with other organizations such as Alcoholics Anonymous. It has exemplified the function which every commission should strive to attain; that it provide the structure and the frame-work within which Alcoholics Anonymous can work.

In summation, it is my belief that we have an adequate concept of motivation for the alcoholic on a strictly interpersonal basis but I feel much more can be done to motivate the alcoholic to seek treatment earlier or with less resistance or to conceivably prevent his alcoholism through a broad program of education and social reforms which will include the treatment of the alcoholic as if we really did believe he is a sick person and not merely give lip-service to that concept. I believe that we are well on our way to eventually getting the man on the street and yes, in the tavern to recognize that the alcoholic is sick and when that is accomplished we shall have additional motivation for the sick alcoholic to recover.

Psychiatric Training and Research in the South

A Progress Report on the Southern Regional Program in Mental Health Training and Research

The psychiatrists of the South are in the vanguard of a program to improve and increase training and research in the mental health professions in the region. With the organization in July 1955 of the Southern Regional Council[1] on Mental Health Training and Research, the Southern states launched a cooperative effort to help each other train the professional people so much needed and seek out new knowledge to strengthen the attack on mental illness and help achieve mental health for all their people.

The 16 states of the Southern Governors' Conference participated in the preliminary activities and are represented on the Council, which will advise the Board on policy for the program. Eight of the states have made funds available, at the rate of $8,000 each per year, to support it. The others are expected to join these over the next year and a half as legislatures meet. In the meantime the National Institute of Mental Health has granted funds to the Southern Regional Education Board to put the program in full operation.

From remarks by John E. Ivey, Jr., Director, Southern Regional Education Board, to the Southern Psychiatric Association, on October 4, 1955, in Atlanta, Georgia.

The Southern Regional Program in Mental Health Training and Research will assist the participating states to build stronger and more significant programs of research into the nature of mental illness, and to train additional numbers of psychiatrists, clinical psychologists, psychiatric social workers, psychiatric nurses, and other kinds of personnel needed. A number of different kinds of activities will be undertaken by this program, such as to:

—Make certain specialized training or research facilities of one state available to states lacking such facilities.
—Stimulate research in mental health fields and identify areas of needed research.
—Plan and assist in developing in-service training programs for mental health personnel.
—Serve as interpreter of mental health research to laymen.
—Assist the states in securing additional funds, personnel, and facilities for mental health training and research.

Although its chief concern is with psychiatry, clinical psychology, psychiatric social work, and psychiatric nursing, the program is also concerned with personnel in hospitals and other agencies, volunteer workers, the mental health aspects of professions such as teaching, law, and medicine, and contribution of the biological and social sciences to mental health.

This program has evolved rapidly since November, 1953, when the Southern Governors' Conference, increasingly concerned about the mounting cost of mental illness to the states and the inadequacy of individual state efforts to deal with the problem, passed a resolution asking the Southern Regional Education Board to survey training facilities and research in progress, hold a regional conference to discuss the surveys, and report the results to the next meeting of the Southern Governors' Conference.

In response to this request, the Board embarked on the 1954 Mental Health Training and Research Project, with Dr. Nicholas Hobbs, Chairman of the Division of Human Development and Guidance at George Peabody College, as director. The National Institute of Mental Health granted funds to help finance the project. To define the scope of the project and guide its progress, the Board appointed a distinguished commission of which Governor Frank G. Clement, of Tennessee, was chairman. In February 1954, state representatives appointed by the sixteen governors met in Nashville to outline the procedures to be used in the project. During the following months, state committees surveyed state and university programs of mental health training and research in order to identify needs and resources, and five technical panels considered specia problems in mental health training and research.

By late spring 1954 the state committee reports had provided the most accurate and detailed picture we have ever had of the needs and resources in mental health training and research through a large region. They spelled out the staggering extent of the states' present problems of mental health and projected their situation into the next two decades. One conclusion was that the South will have to quintuple the rate at which it produces specialists in the several fields within ten to 15 years. With respect to psychiatry, it was found that the 16 participating states, with over 30 percent of the country's population, have only 17 percent of the nation's psychiatrists. Two states are without any psychiatric residency training programs. The training centers in the other states will have produced, in 1954-56, only 235 additional psychiatrists, or 22 less than vacant, budgeted positions call for. When these 235 are added to the 795 already employed by agencies, the total will still be only about half the number needed by all mental hospitals in the South in order to meet A. P. A. standards.

The state committees agreed that the need for new knowledge is as acute as the personnel shortage. They felt that the Southern states cannot hope to reduce the financial and social costs of mental disorders in any telling way without finding treatments capable of mitigating or wiping out such dominant disorders as schizophrenia and the psychoses of old age. Although many Southern investigators are productive, the Southern Regional Education Board project concluded that the region does not do its share of the nation's total research job. Lacking research personnel and facilities, the South does not receive a full share of research funds from outside the region. Perhaps the most far-reaching decision which came out

of the project was to step up the entire research activity of the 16 participating states.

These findings were presented to a regional conference, composed of approximately 170 persons from the sixteen states and including representatives of the state committees, the mental health professions, the universities, the legislatures, the state mental health programs, and the lay public. The conference studied and discussed the reports for five days. It found that:

> Individually the Southern states are weak in mental health training and research; working together, each state and the region can be strong.
>
> To attempt to develop each type of training program in each of the states would be extravagant in the extreme and would result in inferior training.
>
> It is in the interest of each state to concentrate its efforts on specific programs and to support complementary programs in other states.
>
> States cannot initiate training programs without calling on other states for trained personnel to staff hospitals, clinics, and faculties. Thus it is in the interest of each state to have strong regional centers for training and research.
>
> The South now has five centers of relative strength in mental health training and research. All of these centers, with adequate support for a program that would co-ordinate local public and private efforts, could provide distinguished training for the region.
>
> In research there are already in the region centers with specialized personnel and facilities. Research is costly and concentrated work is most likely to pay off. All states can participate in mental health research. Knowledge gained from research will benefit all states equally.

The conference addressed to the Southern Regional Education Board four recommendations for action on the basis of the foregoing findings. These recommendations called for:

> —increased appropriations to universities and agencies which prepare mental health personnel and are able to undertake mental health research.
>
> —establishment of regional arrangements between states which need trained people but lack training facilities and states or universities which can provide opportunities for training.
>
> —encouragement of the growth of regional mental health research centers based upon present concentrations of facilities and professional people.
>
> —establishment of a Southern Regional Council on Mental Health Training and Research with a highly qualified staff as an integral part of the Southern Regional Education Board to assist states to strengthen their training and research in mental health by consultation and advice, by working out regional arrangements as appropriate, and by searching for various ways to promote training and research activities in mental health.

The Southern Governors' Conference received the report of the project and recommendations of the conference at its annual meeting in November 1954. The Governors resolved to "accept the recommendations for increasing the emphasis on training in mental health within the states, for interstate arrangements on development and use of facilities in mental health training and research, and for the establishment and support by the states of a Regional Council on Mental Health Training and Research to achieve these ends," and to "ask the Southern Regional Education Board to organize the proposed Regional Council on Mental Health Training and Research, and encourage each state to participate in the work of the Council by appropriating to the Board $8,000 a year to support the Council's operation, use of such funds to be restricted to activities of the Council."

The Southern Regional Education Board agreed to establish the Regional Council "on a temporary basis if funds can be obtained from other than state sources for the support of the Council pending the availability of appropriations by state legislatures," and "as an integral part of its [own] operation, when at least eight states make funds available for that purpose."

The participation of the minimum of eight states required before the program could go into operation is now assured. The participating states will get advice and consultation through the program to make sure that what they are doing represents the most effective use of available resources. The program will include support of institutes and conferences among representatives of state mental health programs and representatives of training centers in the various mental health disciplines. It will provide information on new methods and on training and research activities either in progress or in prospect throughout the region. An important objective will be to work out interstate arrangements, for example, between

states which are producing trained people and other states or agencies which can provide placements for residencies in psychiatry, internships in psychology, or field work placements in social work. Region-wide recruitment drives will be launched to bring more qualified students into the mental health specialties. If the member states desire it, the program will also include fund-raising efforts in the hope of financing research in the sciences related to mental health, experimentation in methods of training mental health personnel, and student fellowships.

The Council, which is chaired by Dr. Frank M. Gaines, Commissioner of the Kentucky Department of Mental Health, is composed of state representatives, one appointed by each of the several Southern governors, and half as many representatives of the Southern Regional Education Board appointed by its director. The membership reflects the broadly based public and professional interest in the program. The professional staff will take over in a remarkably auspicious atmosphere of agreement, not only on immediately practical needs and expedients, but also on the fundamental importance of pure research and training as the keys to the states' mental health problems.

The "Old-Man Act" of the Middle-Aged Man

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> Every man desires to live long;
> but no man would be old.
> *Jonathan Swift.*

Every age bracket has its traps; none confers immunity from the danger of making a fool of oneself. The ridiculous and pathetic spectacles of old women whose cosmetics, clothes and capers are those of the young girl, of old men pretending to be youngsters, are too familiar for comment. There exists, however, a type of middle-aged man who avoids this error, though not by the laudable means of "aging with dignity." This type neither "acts his age" nor simulates youth; instead—as the wife of such a man described his conduct—he prematurely "pulls the old-man act."

Such a man does not simply slow down; he surrenders. He neither looks nor acts the man in his late forties, his fifties or early sixties, but takes on the appearance of age and decrepitude long before there is any objective justification for senescence.

In a recent book, *The Revolt of the Middle-Aged Man* (Wyn, New York, 1954), I described a transitory phase typical for middle-aged men: they go through a period of "second emotional adolescence" in which they attempt to start life anew. They concoct grandiose plans to leave their wives, remarry (a young girl), and "enjoy life," whatever that may mean. Other middle-aged men resolve the identical inner upheaval by retiring to hypochondria and waiting for the final blow to fall. The blow can be coronary thrombosis, a stroke, cancer, or any other disease they have read about.

The type of middle-aged man discussed here does not fit into either of these categories. He is resigned to wearing the ball-and-chain, which is the way he thinks of his marriage. He is as fully resigned to the other circumstances of his life, and makes no plans to change them. He merely gives up, and his characteristic air becomes that of bankruptcy, exhaustion, resignation or depression. He is neither a hypochondriac nor a rebel. He lives a life of half-hibernation, without hope of spring. He looks feeble and haggard, and he stoops—thus emphasizing the greyness of his hair. His memory is not what it was. Two drinks taken after dinner make him drowsy, and he falls asleep at nine o'clock. His sex-life has withered. He has no hobbies; nothing interests him; he is not even bitter. He performs his duties in a distracted and mechanical manner, like a zombie, although diagnosticians cannot find any special pathology. The over-all impression he gives is that of a man waiting for the undertaker.

In analyzing these men, who are generally

propelled into treatment by their wives, one finds a rather typical situation: *a preventive unconscious technique of avoiding reproaches of the inner conscience, the motto being, "I'm old, near the grave, and I've suffered enough; why kick a man who is down?"* External actions and attitudes dramatize this motto.

Nearly 350 years ago Francis Bacon observed: "Men of age object too much, consult too long, adventure too little, repent too soon, and seldom drive business home to the full period, but content themselves with a mediocrity of success." Inwardly, the people under discussion here "do not content themselves with a mediocrity of success"; on the contrary, the mediocrity of their success is the basis of reproaches leveled by the unconscious conscience, which maliciously recounts the hopes that have failed to materialize, the promises, made to oneself, that have not been fulfilled, the aims that have not been achieved. To escape the need of searching for a remedy—and for the renewal of effort in general—the alibi "old-age act" is produced for the benefit of conscience. It is superfluous to mention that the entire process is *unconscious*.

One does these rather tragic figures an injustice by accusing them (as their wives consistently do) of "lacking initiative" and being *conscious* "fakers." The wife of one of these men said of him, "He acts the school boy playing hookey, pretending to be sick." When asked what illness her husband allegedly simulated, the lady was at a loss to name one.

In making the differential diagnosis, one must of course consider the possibility that a pre-psychotic depression exists. After excluding this possibility, the neurotic substratum remains as the answer.

A remarkable byproduct of this neurotic disturbance is the acceleration of the aging process, as far as external appearance is concerned. Equally remarkable is the fact that this process is partially reversible (to the extent to which it has been psychologically induced), provided the *masochistically instituted and dramatized inner alibi, directed at the inner conscience,* is psychotherapeutically worked through.

In a series of cases I have gathered the impression that the "old-man act" is executed under a triad of inner conditions:

1. It hits neither the very successful nor the very unsuccessful; it is typical of the middle-of-the-road success. When middle age makes the individual aware that the door may be closed, he comes panicky. As As a way out—rejecting rebellion or hypochondria — he chooses submission and dramatized aging.

2. Exhibitionism has previously been pronounced in these people; they have had to shine in their moderate achievements. Defensive as this exhibitionism was (covering more deeply repressed voyeuristic vicissitudes), it served them well. Now, unable to maintain the pace, they shift into *"negative* exhibitionism," *physically* demonstrating their decay.

3. Whatever the psychic makeup of these people, the masochistic component has been pronounced. Now they take refuge in a tearful "argumentum ad hominem." Dramatizing their decay, they beg conscience to spare them.

The "old-man act" is an episode in the never-ending "battle of the conscience." There are hundreds of techniques whereby people defend themselvs against thir inner torturers; these are described in my books, *The Superego* and *The Battle of the Conscience.* One of the devices so far overlooked is the "old-man act." One should add that it is one of the most damaging. Very likely it is a poor consolation to claim, as Oliver Wendell Holmes did, that "to be seventy years young is sometimes far more cheerful and hopeful than to be forty years old," but the "old-man act" of the middle-ager proves that one can be quite miserable before old age.

Eastern Psychiatric Research Association Proceedings

DR. CHARLES BUCKMAN, *Chairman*

Electric Shock Treatment With New AC Equipment

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EST has become an accepted and valuable method in psychiatric therapy. Those patients whose mental illness shows a prevalence of affective components will derive greatest benefit from this form of treatment. Like any other physiological therapy it is not without danger. Although no more than possibly 40 fatalities have been reported,[1] fractures and dislocations occur in about 5%. Many methods have been devised to reduce these complications. To soften the powerful muscular contractions during the convulsive seizure, preshock injections of curare-like drugs, of succinyl choline and barbiturates are administered. They have reduced the number of fractures, but have added the risk of respiratory paralysis in a patient whose brain has been made hypoxic during the convulsion.

The original Cerletti-Bini machine has been modified. Reduction of the electric current in the glissando technique with simultaneous increase of the time factor diminish the risk of fractures. But since the initial thrust is at a very low voltage, the patients experience pain and become fearful of shock treatment. Either intravenous pentothal sodium before shock has to be given or the voltage has to be raised rapidly to a level high enough to create adequate retrograde amnesia. Impastato and Pacella[3] went a step further and produced localized unilateral Jacksonian seizures in anesthetized patients. They were able to reduce the hazard to the patient, but obtained with this form of focal EST statistically poorer results than with generalized convulsions.

From January 1, 1952 to July 31, 1954 we administered to 412 chronically disturbed patients a total of 13,184 applications of EST with the conventional alternating current machines without using any muscle paralyzing agents. Not a single fracture or dislocation was observed. The only complications we encountered were two lung abscesses. We feel that they could have been avoided if respiratory infections prior to treatment had not been overlooked.

However, our greatest problems were as follows:

a) Adjustment of time and current settings to the individual needs of the patient.

In general we administered 120 volts within 0.2 seconds to produce a grand mal seizure. Frequently the same patient treated with the same machine in the same manner would at different occasions react with severe cyanosis or with a petit mal seizure for reasons unknown to us. We learned that a patient when dehydrated would require a stronger current or more time for a grand mal seizure than when in a state of undisturbed electrolyte balance. We also became aware of the fact that if a petit mal seizure was produced, it was necessary to increase the current or time immediately to obtain a grand mal convulsion. If we waited even a few minutes the patient would react with alarming cyanosis. We also saw patients becoming "sensitized" to EST. If many treatments were given the patient would finally start to react with severe cyanosis and the time and current had to be reduced. However, in most cases we could not find the reasons for these "variable EST responses" and attributed them to the inadequacy of the machines.

b) Prolonged apnea, irregular breathing.

Arrest of or slow return to normal breathing was a problem in almost 5% of our patients. While we never used oxygen or a tracheal tube we were forced in several cases to administer artificial respiration and a few times we had to give 2 cc. of caffeine sodium benzoate intravenously. Sometimes, after the initial apnea had ceased and the patient had started to breathe normally, there was again a respiratory arrest or the breathing became irregular. Occasionally laryngospasm was responsible. However, most of these patients displayed pallor rather than cyanosis. Reduction of the "electric dosage" at the next session was ineffective. None of these patients had clinically cardiac pathology and in a few patients an electrocardiogram was found to be normal. We attributed this disturbance to a change in cerebral metabolism.

c) Postshock confusion and anxiety.

Most patients were in a state of great confusion. Some tried to leave their beds and might have injured themselves. We believe that a small percentage of fractures will occur after and not during EST. All patients had to be watched in the treatment area for a full hour before they were returned to their wards. Several patients, especially those with depressive features, experienced a great deal of anxiety. They were calling for their relatives, were crying and pleaded not to be subjected again to EST. Some had panic-like reactions with outbursts of wild excitement and screaming. Intramuscular administration of sedatives before or after treatment was of no avail. In general these panic states did not last longer than half an hour, but EST was discontinued. Alexander's method[4] of "counter shock" using the unidirectional apparatus with subconvulsive stimulation might have alleviated such reactions making it possible to continue

Meeting of April 5, 1956 held at Kings Park State Hospital, Kings Park, N. Y.

EST, but we did not have such an instrument at our disposal.

However, we were able to obtain a new type of Cerletti-Bibi equipment designated as Mo1-AC2 (Reuben Reiter). This compact and inexpensive apparatus uses alternating current like other Cerletti-Bini machines, but the operating features have proved to be useful in controlling the above mentioned side effects. The machine has a single push button and a voltage setting of high, low and medium and dispenses entirely with the complicating settings of other machines. The extreme simplicity and ease of operation make it possible to pay greater attention to the patient. The starting current is very high in order to provide maximal amnesia, but the initial thrust passes over so rapidly that the body has no chance to respond with too powerful a motor jerk thus avoiding extreme muscle contractions. The current then automatically diminishes to a very low level sufficient to regulate the completion of the grand mal seizure. Because of the rapid decrease of the current the thrust is considerably lessened and it is possible to control the time necessary to insure a grand mal seizure without fear of too long a current application. The difficulties which we encountered with the inadequate and inaccurate time setting devices in our former machines are completely abolished in the Mo1-AC 2.

In actual operation the initial current, if set at "High," starts at 195 volts, but drops automatically within milliseconds to less than 100 volts. In the "Low" setting of the instrument the initial current occurs at 165 volts and falls within milliseconds again to about 100 volts. The machine, therefore, creates adequate retrograde amnesia because of the initial high current, lessens the gross motor strip contractions because of the rapid fall of voltage, thereby diminishing the danger of fractures, and in the "Low" setting the patient experiences much less confusion than with the former machines.

Twenty chronically ill patients were treated with the Mol-AC 2 with a total of 277 applications. In only one patient was it necessary to use the "High" voltage. All others were treated with the "Low" setting. Nineteen patients were diagnosed as having schizophrenia, one patient involutional melancholia. All 20 were selected because depressive components were the dominant features of their mental illness. Grand mal seizures were produced in all patients. None experienced cyanosis. There were no "variable EST responses." Normal breathing returned promptly, the pulse rate, initially increased, became normal within minutes after completion of treatment, and it was possible to reduce the time of watchful post-treatment observation from one hour to half an hour. The diminution of confusion was striking. About ten minutes after treatment the patients were in good contact, could leave their beds and walk about without staggering. The Porteus maze test performed 30 minutes and again one hour after completion of EST confirmed our clinical observation. Those treated with our former machines showed a pronounced defect in the test performance after 30 minutes, but cleared up after one hour, while in patients treated with the Mol-AC 2 there was no deficit after 30 or 60 minutes. No panic reactions were observed, although 3 patients still experienced anxiety while their depressive features subsided.

Pulmonary Complications of Shock Therapy

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The most important pulmonary complication of electroshock therapy is lung abscess. The following case was recently seen at this hospital.

Case Description

This 34 year old negro male with dementia praecox, hebephrenic type, was started on a course of electroshock therapy in November 1955. He received 14 shock treatments of the grand mal type over a two month period.

Six days after his last treatment he developed a fever of 102.4° and bloody sputum. Examination revealed rales over the right upper lung. Chest x-ray showed a lung abscess with cavitation and a fluid level in the right middle and right upper lung. Sputum smears were negative for tubercle bacilli.

He was treated with antibiotics with return of his temperature to normal in a few days and gradual resolution of his pulmonary lesion.

Discussion

The respiratory complications of electroshock therapy can be divided into those of central origin, such as prolonged apnea, and those of pulmonary origin, such as pneumonia, lung abscess and gangrene of the lung.

Apnea is a physiologic phenomenon in any convulsive seizure. It is not considered a complication unless it is prolonged and requires special therapy for the restoration of normal respiratory function. This complication occurs relatively infrequently and has been reported more frequently after subconvulsive or abortive responses than after generalized seizures.[1,2] The following measures have been recommended to prevent apnea:

1. Proper electro-stimulation.
2. Immediate application of artificial respiratory movements following each treatment.
3. Oxygen or hyperventilation prior to treatment.

Apnea, following shock treatment is best treated by:

1. Electro-stimulation.
2. Artificial respiration.
3. Oxygen administration.
4. The use of metrazol and alpha-lobeline are of little value.

The most important pulmonary complications following electroshock therapy are aspiration pneumonia and lung abscess. Aspiration pneumonia has been reported by Jessner and Ryan in two out of 140 cases.[2] Lung abscesses have been reported in some series as high as 0.24 and 1 per cent.[3,4]

The incidence in this hospital is much lower. The above reported case is the first observed in several

hundred cases over many years.[5] Scattered reports in the literature[6-8] indicate the relative infrequency of this complication.

Altschule[9] has described the alterations in respiratory mechanics during and immediately after electroshock therapy. With the tonic phase, there is maximal forced expiration with extreme levation of the diaphragm. This is followed by varying degrees of apnea and then, for a few seconds, by grasping, inefficient respiration. This is then followed by maximum inspirations and hyperpnea, lasting for several minutes. It is during this phase that aspiration may occur. Contributing to the danger is the profuse salivation and increased secretions in the respiratory passage due to increased vagus activity during the seizure. This increase in mucous secretions in the respiratory passage, followed by deep sucking respirations in an unconscious patient, offers ideal pathologic condition for aspiration pneumonia, lung abscess and even gangrene of the lung.

Kahn[7] studied this problem of aspiration by passing a catheter into the nasal pharynx and gently instilling iodized oil during the tonic phase of the seizure. X-rays taken at intervals revealed aspiration of the radiopaque material into the larger bronchi in all 26 cases studied, and widespread dispersion of the material into the smaller bronchi in 17 of the 26 cases.

The most important predisposing factor in the development of pulmonary infections following shock therapy is the presence of infected or septic material about the teeth, sinuses, tonsils and nasal pharynx. There are several reports of lung abscesses following shock treatment in patients with nasopharyngitis or oral infections.[7,8] In a series from a large general hospital,[10] 40 to 80 per cent of cases of lung abscess had dental abscesses or infections.

Another important factor is the behavior status of the patient. Kwalwasser[3] reported that 22 out of his 25 cases of lung abscesses following electroshock were disturbed, uncooperative and untidy.

Onset of the abscess is usually abrupt with fever, cough, pleuritic pain and occasionally bloody sputum. The course, however, may be more insidious.

The site of the abscess is, as in our case, most frequently in the right upper lobe. Brock[10] has shown that aspiration in the lying position most commonly involves the right upper lobe. Lipiodol was injected into the nose of sleeping subjects and aspiration was observed to occur most frequently in the right upper lobe.

Prophylactically, the following measures can be recommended to prevent pulmonary infections and lung abscesses following shock treatment:

1. Patients with respiratory infections should be excluded.
2. Dental pathology, especially oral infections, should be corrected.
3. Atropine should be given to decrease the amount of salivation and secretions in the respiratory passages.
4. Suction may be used for excess salivation.
5. Prolonged apnea should be treated properly and vigorously.

As far as the position of the patient is concerned, Kwalwasser,[3] in his series of 25 cases, felt that position of the patient during and after electroshock was not of great importance. The treatment of these pulmonary infections and abscesses consists of antibiotics, postural drainage if an abscess develops, and even surgery in chronic localized lung abscesses.

At present, pulmonary tuberculosis is no longer considered an absolute contraindication for electroshock treatment. In general, tuberculosis with recent hemorrhage or a high degree of activity is considered to be a contra-indication. However, the agitated tuberculosis patient, who refuses to eat and is unable to rest will usually become progressively worse. Electroshock therapy will make the patient more amenable to treatment. Therefore, regardless of the activity of their tuberculosis, Pleasure[11] treats all patients for whom electroshock therapy is urgently indicated, such as suicidal, depressed, catatonic, excited patients and those refusing to eat. If an unstable lesion is present, electroshock therapy may be instituted, if the psychiatric indications are good. If possible, however, treatment is deferred until the lesion stabilizes. Stable lesions may be treated freely. Using these criteria, no extensive hematogenous spreads were noted. Any spread was usually not extensive and was easily treated if the patient became cooperative. Using these criteria, Pleasure[11] noted a significant reduction in mortality of disturbed tuberculosis patients.

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(Report of meeting to be continued in August number.)

Book Reviews

THE RELATIONSHIP BETWEEN SYRINGOMYELIA AND NEOPLASM by Charles M. Poser, M.D., Chas. C. Thomas, Springfield, Ill., 98 pp.

This book consists of a comprehensive study of all published cases of syringomyelia associated with neoplasm of the spinal cord, including only cases verified by postmortem examination. Two hundred and thirty-four cases comprised this study including ten of the author's own. The author includes a good review of the various theories on the pathogenesis of syringomyelia. In the entire series of cases 80 per cent had intramedullary involvement by the neoplasm, results which would seem to indicate that there is more than coincidence in finding the two conditions together. This analysis consisted of determining the location of the syringomyelia cavity, the relationship between the cavity and the neoplasm, and the location and histologic type of the neoplasms. In only 13.6 per cent was the cavity anatomically separate from the intramedullary neoplasm. The incidence of gliomas (43%) was higher than is generally reported in spinal cord tumors; 50 per cent of the neoplasms were of "congenital" type and 13.7 per cent were phakomatoses. The author suggests that syringomyelia should be considered another link between Von Recklinghausen's disease and Lindau's disease and that it should be considered a part of both disease complexes. He suggests that the process underlying the pathogenesis of phakomatoses also is responsible for the combination of syringomyelia and neoplasms of the central nervous system. From the evidence collected the author explains syringomyelia and the associated central nervous system neoplasms on the basis of congenital anomalies resulting from faulty closure of the dorsal raphe of the spinal canal with inclusion of glial or mesodermal tissue. It is proposed that syringomyelia and neoplasm are then the result of faulty differentiation, possibly a process similar to the one that in its extreme form results in one of the phakomatoses. This book represents a careful study and a worthwhile contribution to the perplexing problem of syringomyelia, its pathogenesis and its relationship to neoplasms.

Chester F. Cullen, M.D.

A TEXTBOOK OF CLINICAL NEUROLOGY: By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, N. Y., Consulting Neurologist, Mt. Sinai Hospital, Montefiore Hospital, and Rockland State Hospital, N. Y. Cloth. $9.50. Pp. 801 with 179 figures. New 7th Edition. W. B. Saunders Company, West Washington Square, Phila., Pa. 1952.

This text book, which has gone through its present seventh edition, is the work of an outstanding clinical neurologist. It has served as a teaching manual for students and medical practitioners alike for over a quarter of a century.

In his classic and didactic manner, the author has creditably covered the intricacies of the subject and has brought this revision up to date in accordance with the most recent investigations in the field of neurology.

It is hoped that in a future edition the author will no longer continue to express doubt respecting tracheotomy as an armament of presently recognized treatment in bulbar polio. It would also be opportune were the author to delete in a future revision his illustration (carried over from former editions) of the cortical surface of the left cerebral hemisphere, wherein he represents toe localization upon the precentral cortex as the area wherefrom toe functions are activated. This is not in accordance with the modern interpretation. Based upon present understanding of functional localization, electrical stimulation applied to the longitudinal fissure and not to the convexity of the cerebral hemisphere, will activate movement of the toes.

The book is abundantly and strategically illustrated, and contains several illustrations not presented in former editions. The text been extensively revised and rewritten yet continues in the format of its characteristic methodical and clinical approach, couched in simple language. This has made the text book one of the most outstanding volumes which, as a well documented and richly indexed treatise, merits the interest of the practitioner, resident and student of clinical neurology.

Lewis J. Siegal, M.D., LL.B.

MULTIPLE NEUROFIBROMATOSIS by Frank W. Cowe, M.D., William J. Schull, Ph.D., and James V. Neel, M.D., Ph.D. Chas. C. Thomas, Springfield, Ill., 181 pp.

This little book is a clinical, pathological, and genetic study of 223 relatively unselected cases of multiple neurofibromatosis. One of its chief values lies in the large series of cases studied by the authors. Because of the relative rarity of the disease there are numerous case reports in the literature which give a somewhat biased picture with numerous differences of opinion. This is an effort to develop a more representative picture of the clinical and genetic aspects of the disease. The clinical study covers the presenting complaint, cutaneous manifestations, osseous lesions, central nervous system involvement, malignant changes, and endocrine alterations, with only brief mention being made of all but the cutaneous manifestations. This study indicates that neurofibromatosis is not as rare as is generally thought, the frequency in the State of Michigan being calculated as one in every 2500 to 3300 births. The authors feel that a high degree of accuracy in diagnosis is possible; eighty percent can be diagnosed solely on the number of cafe-au-lait spots present. Any person with more than six cafe-au-lait spots greater than 1.5 centimeters in diameter has multiple neurofibromatosis. No normal individual was found with this amount of macular pigmentation. The pathology of the tumors is

described, pointing out the constant presence of mast cells in these tumors and their importance in the diagnosis of neurofibroma in obscure cases. Unfortunately therapy has not progressed since the disease was first recognized. Half of the book is devoted to a description of the clinical cases upon which the genetic calculations are based. It was found that approximately 50 per cent of the cases in this series had affected relatives, with transmission being dependent on a dominant gene. This is an interesting book and a careful study of interest primarily to dermatologist and the geneticist.

Chester F. Cullen, M.D.

CLINICAL STUDIES IN NEUROLOGY by Harry Lee Parker, M.D., M.S., FRCPI. Chas. C. Thomas, Springfield, Ill., pp. 364. $6.50.

It must have been sheer delight to walk the wards of Richmond Hospital in Dublin, Ireland, with Harry Lee Parker, but in that such pleasure must be denied us, the next best thing is to read his book and every doctor should read it. It is true, as he says, that "medical books on the whole are dull reading," but this one definitely is not. To read this offering is indeed a pleasant and rewarding experience. The dust jacket warns that its purpose is "to interest and stimulate enjoyment and, if something is learned at the same time, so much to the good." Something is learned, indeed, and one can hardly think of a pleasanter way of learning.

Here, set forth in lucid fashion, is an echo of what went on during the author's twelve year tenure. Students were taught "to see, to hear, to feel, even as young puppies, to rub their noses in the foul odor of disease." The chapters are divided into months, encompassing the school year from October to June—two cases each week, usually one major and one minor—and by the time the second semester has closed the student has seen the things a student needs to see and pleasantly they should be fixed in his memory.

Reading the book is a delightful experience and the pedagogy, unorthodox as it is, demonstrates the author's perceptiveness, his awareness of beauty and drama, and the love of people and of the discipline of neurology.

One hears of the sights and sounds of Dublin, of the smell of the Liffey River in changing seasons, a barrel organ playing, and also one senses the interest in the students as the Professor "calls down a murrain on all the creators of eponyms." One hears that the famous Doctor Dover of Dover's powders was a pirate and that Demetrius O'Flanagan McCarthy, with his Tabes, passed the collection plate in his church, and in the hearing one fixes in his mind the symptoms of Tabes. As the Professor asks a question of students on one occasion, he notes: "Already I can see a light on your usual sheeplike faces." Then to demonstrate the varied reactions of Parkinsonism, the gramophone, the flood lights, and the shadow boxing of the patient, a former pugilist. There is Twisty Tim, the Garbage Collector, "scrubbed to the limit of his epidermis and ceasing to smell," etc.

Through all of the narrative there appear the insights and the keenness of the astute clinician as he sets forth his knowledge of neurological syndromes. Taken chapter or two at a time, this is guaranteed as the pleasantest and most painless way of awakening an interest in and gaining knowledge of neurology that this reviewer has ever seen. Both author and publishr are to be congratulated and the book is highly recommended.

Francis J. Braceland, M.D.

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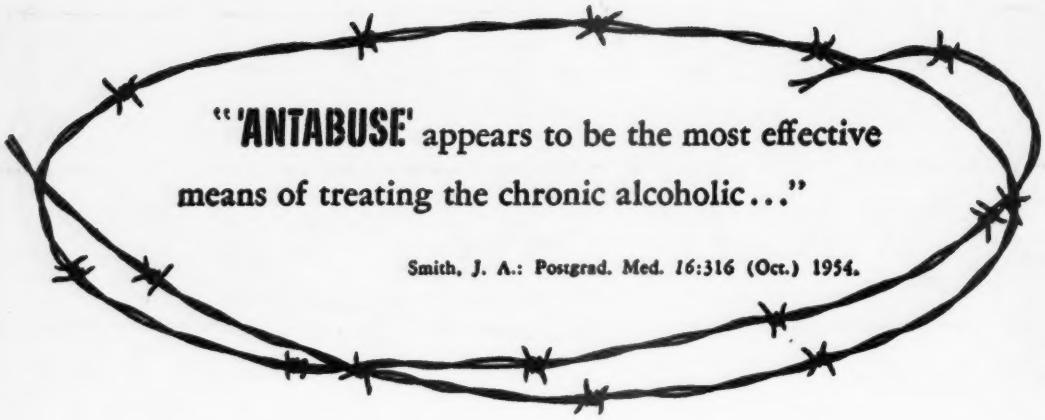

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